Analysis of Policy and Legal Framework, Potentials and Limitations for Mainstreaming Biodiversity and Ecosystems Services in Agrarian Landscapes

Consultant's Report

On behalf of: GIZ Project Biodiversity and Ecosystems Services in Agrarian Landscapes

Roziya Kirgizbekova

Dushanbe, April 23, 2018

Abbreviations

CBD	Convention on Biological Diversity
CEP	Committee for Environmental Protection
COP	Conference of Parties
GDP	Gross Domestic Product
GHG	Greenhouse gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
INDC	Intended Nationally Determined Contributions
NBSAP	National Biodiversity Strategy and Action Plan
SDG	Sustainable Development Goals
SPA	Specially Protected Areas
NEAP	National Environmental Action Plan
UNCCD	United Nations Convention on Combating Desertification
UNFCCC	United Nations Framework Convention on Climate Change

Contents

Abstract

Biodiversity and ecosystems services in agrarian landscapes provide the products and services, which are necessary for sustaining healthy environment and ensuring human well-being. Various direct and indirect drivers lead to the reduction and loss of biodiversity in agrarian landscapes. Sustainable management practices can prevent or mitigate biodiversity loss and preserve the essential benefits of biodiversity and ecosystems services. Agriculture is a priority sector for Tajikistan in terms of economic development and livelihood security, particularly in rural areas. This report provides a review of the international regulations and national policies and laws on biodiversity and ecosystems services in agrarian landscapes. The results of the analysis show that the Convention on Biological Diversity, namely the Aichi Targets 2020 and the 2030 Agenda for Sustainable Development provide a suitable international framework for planning and implementing activities at national and local levels for conservation and sustainable use of biodiversity and ecosystems services in agrarian landscapes. Also, it was identified that the national and sectoral policies and laws of the Republic of Tajikistan need further strengthening to mainstream biodiversity issues in the agricultural sector. Closer cooperation of the relevant stakeholders involved in biodiversity conservation and in the agrarian sector will significantly benefit the efforts aimed at enhancing the conservation and use of biodiversity and ecosystems services in agrarian landscapes of the Republic of Tajikistan.

1   Introduction

The Project on Biodiversity and Ecosystems Services in Agrarian Landscapes is being implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in the Republic of Tajikistan. The project aims at strengthening the capacities in maintaining biodiversity and ecosystems services in agrarian landscapes through the pilot implementation of biodiversity friendly land use approaches. The knowledge and experience compiled during the project will serve the basis for further development of the national institutional framework related to biodiversity and ecosystems services in agrarian landscapes in the Republic of Tajikistan.

This report will assess biodiversity and ecosystems services in agrarian landscapes in Tajikistan through: i) an analysis of international conventions and national policies and laws; ii) identify the potential and limitations for mainstreaming biodiversity and ecosystems services; and iii) provide recommendations on entry points for mainstreaming biodiversity and ecosystems services in agrarian landscapes of the Republic of Tajikistan.

The report of the legal consultant was part of the overall study and provided the basis for the analysis of the relevant national laws and policies. The preliminary results of the assignment were presented during the First Meeting of the Project Steering Committee held on January 26, 2018. The views expressed during the discussion of the presentation are reflected in this report.

The consultant undertook a review of the relevant international conventions, national legislation and strategies, and met with key authorities, including Mr. Nematullo Safarov, Head of the Biodiversity and Biosafety Center under the Committee for Environmental Protection of the Republic of Tajikistan, Mr. Sherali Safarov, Head of the Department of Horticulture, Ministry of Agriculture of the Republic of Tajikistan, and Mr. Hasan Asoev, Head of the Information, Advisory and Education Unit, Academy of Agricultural Sciences of the Republic of Tajikistan.

The present report starts with an overview on the role of biodiversity and ecosystems services in agrarian landscapes in provision of vital goods and services, the drivers of change also in the context of Tajikistan. The review of international biodiversity regulations and the national policy and legal framework on biodiversity conservation in agrarian landscape is provided in the following chapters. Internationally accepted regulations and the extent of their integration at the national level are analyzed bearing in mind the country's unique conditions, interests and needs. Subsequent chapters of the report reflect on mainstreaming of biodiversity conservation in agrarian landscape, the existing challenges and enabling conditions, but also the suitable entry points and approaches. The consultant's conclusions on the review and set of recommendations complete the report.

2 Background

Biodiversity and ecosystems services in agricultural landscapes have been recognized globally as being essential for ensuring food security, providing sources of livelihood and supporting key sectors of the economy in many countries, which provide income and employment to large portions of the population. Agricultural biodiversity as one of the vital assets in agricultural landscapes *"includes all components of biological diversity of relevance to food and agriculture, and all components of biological diversity that constitute the agricultural ecosystems, also named agro-ecosystems: the variety and variability of animals, plants and micro-organisms, at the genetic, species and ecosystem levels, which are necessary to sustain key functions of the agro-ecosystem, its structure and processes.*[1] Biodiversity in agriculture provides critical products and services vital for environmental sustainability and human well-being. The natural capital of agricultural landscapes is a source of food (vegetables, cereals), fiber (cotton), fuel (firewood, bio-fuel), fodder and ecosystems services such as nutrient cycling, soil fertility, water conservation and pollination. The richness of genetic diversity in the agricultural landscapes guarantees better adaptation to changing conditions such as severe droughts, variability of precipitation and other weather extremes. Adaptation to climate change is gaining urgency globally and in this regard conservation and sustainable use of biodiversity and ecosystems services plays a key role to address and alleviate the challenges and threats posed by climate change. The livelihood and food security of many people, particularly rural communities depend heavily on the biodiversity of agricultural landscapes, be it subsistence farming or income earning from cultivation of cash crops, livestock breeding and other farm practices. The human knowledge about the richness of plant and animal genetic resources, namely the farming practices form the foundation of conservation and sustainable use of biodiversity and ecosystems services in agricultural landscapes.

The importance of biodiversity and agriculture is marked by the interdependence of their respective resources and functions. The rich diversity of plants and animal genetic resources is the source of agriculture and is indispensable for preserving agricultural systems. At the same time, agricultural practices conducted in a sustainable and environmentally friendly way contribute to the conservation and sustainable use of biodiversity. Agriculture can also have adverse effects on biodiversity through pollution from agricultural chemicals, deforestation for arable land expansion, or monoculture, resulting in both biodiversity loss and destruction of important ecosystems services. It is necessary to sustain this strong interdependence of agriculture and biodiversity to provide the products and services vital for sustainable agriculture, food security and livelihood, as well as fostering sustainable development.

There are key drivers that significantly impact biodiversity and shape agriculture at the landscape level. Firstly, there are direct drivers such as changes introduced in the land use systems, pollution from excessive use of pesticides and chemical fertilizers, and adverse impacts of climate change. Secondly, there are changes which can be triggered by indirect drivers such as population growth and the corresponding increase in food demand, national policy, legal and institutional

---

[1] Convention on Biological Diversity. COP Decision V/5, appendix.

frameworks, which set the direction and provide the conditions in the sectors, as well as the work of the scientific community and technological progress[2].

The Republic of Tajikistan is predominantly an agricultural economy with almost 74%[3] of the population living in rural areas. In 2015 the agricultural sector accounted for 23%[4] of GDP and 25% of national employment. Agricultural products are one of the main exports of the country. Tajikistan is known for the richness of its flora and fauna found in a multitude of ecosystems in different landscapes. The biodiversity resources of the country sustain not only the agricultural sector, but also the forests, pastures and are vital for providing key services of water regulation, provision of soil fertility, pollination, etc. The increasing population leads to ever higher demand for agricultural products, particularly in rural areas where the livelihood depends primarily on the resources provided by land. The cultivation of agricultural crops, orchards, vineyards, and livestock are the main sources of livelihood. Local people also collect firewood and burn animal dung for daily cooking and heating purposes.

Biodiversity and ecosystems services are under pressure in agricultural landscapes of Tajikistan due to several factors, which have resulted in numerous environmental problems. Unsustainable agricultural practices, inefficient and insufficient irrigation of agricultural lands, pasture overgrazing, and uncontrolled forest logging are among the main causes of land degradation. The high rates of soil erosion, salinization, contamination, nutrient loss, poor filtration of arable lands, and large areas under desertification have an adverse impact on biodiversity, causing biodiversity loss and the loss of key services and products found on agricultural landscapes. The degraded landscapes are highly vulnerable to natural hazards such as severe droughts, floods, and prolonged frosts. The situation can be exacerbated by the climate change impacts, particularly the variability of precipitation, seasonality and changes in hydrology due to acceleration of glacial melt in the country. Agriculture has the largest share in total greenhouse gas (GHG) emissions in Tajikistan, contributing 60% of GHG emissions in CO_2 equivalent. Livestock keeping and mineral fertilizers are the main sources of GHG methane (CH_4) and nitrous dioxide (N_2O) in the agricultural sector.[5]

---

[2] Convention on Biological Diversity. COP Decision V/5.
[3] Tajikistan in Figures. State Statistical Agency of RT, 2015.
[4] National Development Strategy of the Republic of Tajikistan 2030, 2016.
[5] Third National Communication of the Republic of Tajikistan to the UNFCCC, 2014.

3 International regulations on biodiversity conservation and ecosystems services in agrarian landscapes

The Convention on Biological Diversity (CBD) is an international legally binding treaty which aims to conserve biodiversity, to ensure the sustainable use of biodiversity, and that the benefits of the genetic resources use are shared fairly and equitably. It covers all ecosystems, species and genetic resources. It links traditional conservation efforts to the economic goal of using biodiversity sustainably. The Convention's legally binding status means that countries joining it are obliged to implement it. Article 6 of the Convention calls on countries to develop national strategies for sustainable use and conservation of biodiversity based on own needs and capabilities and report about progress achieved from its implementation. The member countries take measures to the extent possible for ensuring that conservation and sustainable use of biodiversity is accounted for in the relevant sectoral, cross-sectoral plans, programs and policies.[6]

The CBD and its member countries have recognized the importance of biodiversity of plant and animal species in the agricultural systems for food security, environmental sustainability and human well-being. Given the importance and the urgency for action, the Aichi Biodiversity Targets call for more global efforts on biodiversity in agriculture and for this purpose includes a number of concrete targets specifically for agricultural systems. Furthermore, in order to underscore the issue of agricultural biodiversity and ecosystems services, and facilitate targeted actions in this direction, the CBD developed the Program of Work on Agricultural Biodiversity and made agricultural biodiversity and ecosystems services its central theme of action.

3.1 Strategic Plan for Biodiversity 2011-2020 and Aichi Biodiversity Targets

At the Conference of the Parties (COP) to the CBD held in October 2010 in Nagoya, Japan the member-countries recognized that the biodiversity targets set for 2010 under the CBD were not fully achieved. A shortage of financial resources, insufficient human and technical capacities were among the main reasons member countries identified as limiting factors hindering implementation of the Convention's targets at the national level. With the aim of reducing anthropogenic pressure on biodiversity and facilitating more effective actions to preserve and sustainably use biodiversity resources, the COP's Decision X/2, adopted a revised and updated Strategic Plan for Biodiversity and the Aichi Biodiversity Targets for the period of 2011-2020.[7]

The Strategic Plan for Biodiversity 2011-2020 consists of a shared vision and mission, 5 strategic goals and 20 targets knows as the Aichi Biodiversity Targets. These targets will serve as a comprehensive, but flexible framework to develop measures and join forces in implementing these measures on different scales, involving a wide range of groups. The five goals of the Strategic Plan are aimed at addressing specific issues related to preservation of biodiversity. Goal A (Target 1, 2, 3, 4) addresses the relevant social, economic and policy

---

[6] Convention on Biological Diversity. www.cbd.org
[7] Convention on Biological Diversity. Decision X/2.

changes necessary for halting biodiversity loss. Strategic Goal B (Target 5, 6, 7, 8, 9, 10) focuses on reducing direct pressure on biodiversity and ecosystems, and promoting sustainable practices. Goal C (Target 11, 12, 13) calls on the preservation of biodiversity of species and genetic resources, as well as ecosystems services. Strategic Goal D (Target 14, 15, 16) refers to ensuring the sharing of benefits from biodiversity and ecosystems services to all and lastly, Goal E (Targets 17, 18, 19, 20) stresses enhanced development and implementation of biodiversity strategies, strengthening capacities and knowledge sharing, along with increased financial support.

Of the 20 Aichi Biodiversity Targets, the following targets[8] address issues related to conservation and sustainable use of biodiversity and ecosystems services in agricultural landscapes, some more specifically and others less:

Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions.

Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

The progress on the implementation of the CBD the Strategic Plan and the Aichi Biodiversity Targets is reported by member-countries in the National Biodiversity Strategy and Action Plan (NBSAP) and National Reports. These reports are expected to inform on the measures taken at the national level regarding conservation and sustainable use of biodiversity, including policy measures and measures for inter-sectoral coordination on biodiversity. Within the flexible framework of the Strategic Plan countries revise and update the NBSAP to develop their own

---

[8] Convention on Biological Diversity. Decision X/2.

national goals and targets based on national priorities, interests and needs and aiming for the achievement of the Aichi Biodiversity Targets as part of the global contribution. In this regard, the National Reports to the COP should report on progress of implementing the Strategic plan and measures taken to reach the Aichi Biodiversity Targets.

Apart from implementation reporting, at the national level efforts are necessary to integrate biodiversity targets in the planning process of national development strategies, including programs and plans of those sectors which may have an impact on biodiversity.

3.2　Program of Work on Agricultural Biodiversity

Recognizing the importance of biodiversity and ecosystems services in agriculture for production of food, livelihood and human well-being, as well as facilitating the effective implementation of the CBD targets related to agricultural biodiversity and ecosystems services, a separate Program of Work on Agricultural Biodiversity was adopted under the CBD in 2000. The Program specifically focused on tackling the existing challenges in agriculture within the framework of CBD and provides a strong basis for conservation and sustainable use of biodiversity in the agriculture sector. The aim of the Program of Work is to promote the positive effects and mitigate the negative impacts of agricultural systems and practices on biodiversity in agro-ecosystems and their interface with other ecosystems and to promote the conservation and sustainable use of genetic resources of actual and potential value for food and agriculture. Lastly, it promotes the fair and equitable sharing of benefits arising out of the use of genetic resources.[9] In this regard, the Program of Work stresses the role of local communities and indigenous people and their knowledge for conservation and sustainable use of biodiversity in agriculture and their livelihood dependency on these resources.

The Program of Work is comprised of four elements that serve as a foundation for the implementation of the Program. Each of the elements specifies measures necessary for promoting agricultural biodiversity conservation and sustainable use and to ensure that actions taken are holistic. (1) The Assessment calls on efforts which should be made to analyze the current situation of agricultural biodiversity; (2) Adaptive Management stresses the support for effective practices and policies for strengthening adaptive management, expanding the knowledge base of the goods and services provided by agricultural biodiversity and increasing the beneficial impacts and limiting adverse impacts of agriculture on biodiversity. (3) Enhanced capacities and increased awareness of concerned groups about sustainable agricultural practices is vital and is underlined in the Capacity Building element. (4) The Mainstreaming focus should lie on the preparation of national strategies and plans for conservation and sustainable use of agricultural biodiversity and efforts should be undertaken to mainstream these in key national strategies and sector-specific programs and plans, particularly those addressing food security, agriculture and forestry.

---

[9] Convention on Biological Diversity COP Decision V/5.

There are three international cross-cutting initiatives that have been developed and adopted under the Program of Work on Agriculture to enhance the implementation of the Program and focusing attention on specific issues, such as pollination, soil biodiversity, and food and nutrition. The International Initiative for the Conservation and Sustainable Use of Pollinators[10] aims at conservation, restoration and sustainable use of pollinator diversity in agriculture and related ecosystems. The International Initiative for the Conservation and Sustainable Use of Soil Biodiversity[11] aims to strengthen the importance of soil biodiversity in securing production systems and in management of land resources, and capacity building and awareness raising for ensuring better results. Lastly, the International Initiative on Biodiversity for Food and Nutrition[12] aims to foster sustainable use of agricultural biodiversity in the production of food and in the enhancement of nutrition.

The four core elements and the three Initiatives under the Program of Work provide an excellent opportunity to make use of the Ecosystem Approach of the Biodiversity Convention as a suitable tool for implementing the specified measures. The Ecosystem Approach enables the promotion of the sustainable use of biodiversity and ecosystems services in agriculture for the production of food and services critical for human well-being, while sustaining the vital ecosystems and diversity of resources.

Member-countries of the CBD are requested to prepare national strategies, programs and plans on agricultural biodiversity. Such strategic documents are expected to promote sustainable agriculture and contribute to the conservation of biodiversity in agriculture.

Along with governments, donor agencies and international and regional organizations are invited to be active participants in the implementation of the Program of work, as well as render their support in capacity building, exchange of knowledge, and awareness raising at various levels, including regional cooperation. Joint actions among different actors are also necessary to strengthen the understanding and the significance of maintaining biodiversity in agricultural landscapes and to consolidate efforts for promoting the implementation of sustainable agricultural practices beneficial for the environment and the people.

3.3   Biodiversity conservation and the 2030 Agenda for Sustainable development

The Strategic Plan for Biodiversity 2020 and the Aichi Biodiversity Targets are also well reflected in the 2030 Agenda for Sustainable Development (Agenda 2030). Agenda 2030 recognizes that one of the biggest challenges of the modern world is "Natural resource depletion and adverse impacts of environmental degradation, including desertification, drought, land degradation, freshwater scarcity and loss of biodiversity".[13] There are number of goals and related targets of

---

[10] CBD Decision V/5, Section II.
[11] CBD Decision V/5, Para 3.
[12] CBD Decision VIII/23 A.
[13] 2030 Agenda for Sustainable Development, Para 14.

Agenda 2030 which reflect the ambitions set under the Aichi Biodiversity Targets. There is an ample opportunity for mutual reinforcement of progress within both strategic plans. The achievement of Aichi Biodiversity Targets can contribute significantly to the success of the biodiversity-related goals of Agenda 2030 and concurrently the Agenda 2030 provides opportunity for mainstreaming biodiversity issues and promoting the implementation of biodiversity related targets.[14] The achievement of a number of goals under Agenda 2030 will help to alleviate the pressure on biodiversity and will directly contribute to the attainment of several Aichi Targets. To address the sum of issues raised in the Sustainable Development Goals and the Aichi Biodiversity Targets, extensive policy coordination and implementation of integrated approaches is needed.

There are strong links between the following four of the Sustainable Development Goals of Agenda 2030 and the achievement of the Aichi Biodiversity Targets.

SDG 1. End poverty in all its forms everywhere. Poverty reduction can have the most significant contributing impact on biodiversity conservation globally. Poverty is one of the biggest drivers of biodiversity loss globally. Poor population, particularly in rural areas, depend on biodiversity and the related ecosystems services for their livelihood. Production of various crops, livestock keeping, collection of wild plants, etc. are main sources of livelihood for rural households, which often are conducted unsustainably and cause severe reduction of natural resources. The specific targets relevant for biodiversity are:

Target 1.4 - addresses access and control over land and other forms of property as well as natural resources. Secure access and ownership over land and natural resources is vital for ensuring sustainable and long-term user of resources.

Target 1.5 - stresses the resilience of the most disadvantaged groups of the population to climate-related extreme events and other economic, social and environmental shocks and disasters. Sustaining biodiversity and ecosystems services, particularly in agricultural landscapes, can have a direct benefit on stronger resilience.

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture. The growing global population increases the demand for food production. However, agriculture as the main food provisioning sector is also responsible for the multiple adverse impacts on biodiversity and ecosystems services. Given the existing trade-off between production of food and biodiversity conservation, SDG 2 and the relevant targets provide an appropriate approach for addressing it. The progress under Goal 2, specifically the success of the targets below can have a positive effect on the achievement of Aichi Biodiversity Target 7 Sustainable agriculture, aquaculture, forestry and ensuring biodiversity conservation.

Target 2.3 - refers to doubling agricultural production through secure and equal access to land and other productive resources and inputs. Such actions would allow for small-scale food producers to make more long-term and strategic decisions regarding land management and allow them to reduce cycles of land degradation and create incentives and means for sustainable agricultural practices.

---

[14] CBD/SBSTTA/21/2/Add.1.

Target 2.4 - calls on ensuring sustainable food production systems, resilient agricultural practices, maintaining ecosystem services, and enhancing capacity for adapting to climate change and other natural hazards, and improving land and soil quality, which would contribute to the conservation and sustainable use of biodiversity.

Target 2.5 - stresses maintaining the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their wild relatives, promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge.

Goal 13. Take urgent action to combat climate change and its impacts. Climate change is already inducing substantial loss of biodiversity, which will intensify in the future. Efforts aimed at tackling climate-related issues have a high potential to contribute to the conservation of biodiversity and ecosystems services.

Target 13.1 - refers to strengthening resilience and adaptive capacity to climate change. Healthy ecosystems are most resilient to climate change impacts and any measures taken in this regard will have a positive effect on biodiversity.

Target 13.2 - addresses the integration of climate change measures into national policies, strategies and planning. Policy coherence among and between different sectors is crucial to ensure sustainable and long-lasting results.

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. This Goal and its related targets contribute directly to the achievement of several Aichi Biodiversity Targets.

Target 15.3 - refers to combating desertification, restoring degraded land and soil, including land affected by desertification, drought and floods. Fertile land and healthy soil is a prerequisite to sustainable use of biodiversity and ecosystems services.

Target 15.5 - calls on immediate actions to tackle degradation of habitats and loss of biodiversity. Sustaining the natural habitats for plants and animals as well as preserving the rich biodiversity, ensures healthy and resilient ecosystems.

Target 15.9 - stresses integration of biodiversity values into national and sectoral planning processes and national development and poverty reduction strategies. Coherent national policies provide a suitable framework for implementing measures that contribute to the achievement of both development and biodiversity goals.

4 Regional regulations on biodiversity conservation and ecosystems services in agrarian landscapes

4.1 Framework Convention on Environmental Protection and Sustainable Development in Central Asia

At the regional level, the countries of Central Asia have put forth efforts to address the existing environmental challenges and render support for sustainable environmental management in the Framework Convention on Environmental Protection and Sustainable Development in Central

Asia. This Convention is a comprehensive document that provides an overall legal basis for regional environmental cooperation in Central Asia. The main purpose of the Convention, which was adopted in November 2006, is to ensure the protection of the environment and sustainable use of natural resources, as well as preventing actions, which may result in transboundary environmental damage. Importantly, the document calls on the member-states to coordinate national environmental policies and actions, including those in the land use sector. Specifically, Article 10 of the Convention calls on taking appropriate measures to prevent land degradation and desertification through the implementation of national, regional or bilateral programs and projects. The collective actions include establishing regional land degradation monitoring and information exchange mechanism; preventing land degradation; ensuring sustainable forestry and agricultural practices; and sustainable livestock and rangeland management in arid zones.[15]

The progress in the implementation of the Framework Convention has been slow due to insufficient cooperation among the countries, also arising from bilateral cooperation, as well as shortage of financial and technical capacity. Given the recent political developments in the region, further enhancement of the Framework Convention and strengthening regional cooperation within this platform, can serve as an optimal opportunity for addressing the issue of conservation and sustainable use of biodiversity and ecosystems services in agrarian landscapes.

---

[15] Framework Convention on Environmental Protection and Sustainable Development in Central Asia, 2006.

5   National policy and legal framework of the Republic of Tajikistan on biodiversity conservation and ecosystems services in agrarian landscapes

The policy and legal framework on biodiversity conservation and ecosystems services in the agrarian landscapes of the Republic of Tajikistan is comprised of several sector laws, key strategic policy documents, sectoral plans and programs, which fall under the authority of separate governmental bodies and state institutions. The legal and policy base on biodiversity conservation and ecosystems services in agrarian landscapes is fairly well developed. A number of strategic policy documents and laws were reviewed, which set the priority areas for protection and sustainable use of natural resources, also those used for agricultural production, identify the main areas, principles and goals for biodiversity conservation related to agrarian landscapes. The table below shows the list of policies and laws reviewed.

		Title	Authorized government body
Policy framework	National	▪ National Development Strategy of the Republic of Tajikistan 2030 (2016)	All line ministries and committees
	Sectoral	▪ National Environmental Action (NEAP) Plan (2006)	Committee for Environmental Protection of RT
		▪ State Ecological Program for 2009-2019	Committee for Environmental Protection of RT
		▪ New National Strategy and Action Plan on Biodiversity Conservation of the Republic of Tajikistan (NBSAP) for 2020 (2016)	National Biodiversity and Biosafety Center under the Committee for Environmental Protection of RT
		▪ Concept Paper on Agrarian Policy of the Republic of Tajikistan (2008)	Ministry of Agriculture of RT
		▪ State Program on the Implementation of the Concept Paper on Predictive Development of the Legislation of the Republic of Tajikistan in the field of Agriculture and Environmental Protection for 2012-2015, 2012	Ministry of Agriculture of RT, Committee for Environmental Protection of RT, Committee for Land Management and Geodesy
		▪ Agricultural Reform Program of the Republic of Tajikistan for the period of 2012-2020 (2012)	Ministry of Agriculture of RT
		▪ Third National Communication of the Republic of Tajikistan to UNFCCC (2014)	State Agency for Hydrometeorology under the Committee for Environmental Protection of RT
Legal framework	Sectoral	▪ Land Code (1997)	State Committee for Land Management and Geodesy
		▪ Law on Production and Safe Use of Pesticides and Agrochemicals (2003)	Ministry of Agriculture of RT
		▪ Law on State Regulation for the Provision of Fertility of Agricultural Lands (2004)	Ministry of Agriculture of RT
		▪ Law on State Support for Agroindustrial Complex of the Republic of Tajikistan (2007)	(Ministry of Agriculture of RT; Ministry of Finance of RT)
		▪ Law on Soil Conservation (2009)	Not specified

Title	Authorized government body
▪ Law on Collection, Conservation and Rational Use of Genetic Resources of Cultivated Plants (2012)	Academy of Agricultural Sciences of RT
▪ Pasture Law (2013)	Ministry of Agriculture of RT
▪ Forest Code (2011)	Forestry Agency under the Government of RT

Given that a comprehensive analysis of the legal framework of the Republic of Tajikistan on biodiversity and ecosystems services in agrarian landscapes has been accomplished by the Legal Expert, this section draws on the findings and recommendations made by the Legal Expert, as well as additional inputs are included to provide a better overview of the national policy and legal framework related to biodiversity and ecosystems services in agrarian landscapes.

5.1 National policies

The Annual Address of the President of the Republic of Tajikistan, Emomali Rahmon to the Parliament of the Republic of Tajikistan[16] is one of the most significant events in the national politics, which draws conclusions on the accomplishments over the past year and sets out priority directions not only for national development, but also identifies strategic objectives for all sectors of the country. These objectives serve as a basis for decision-making process at the national, regional and local levels, and must be integrated into sectoral plans, programs and planning processes as far as possible.

During the Annual Address of 2017, the President made a reference to the importance of environmental issues and natural resources, noting that effective use of water and land resources, and an increase in agricultural production is possible only through the application of modern agro-technical measures in the agricultural sector. He also called on the scientific community of the country to continue their work, including in the field of biological diversity and natural resources.

5.1.1 National Development Strategy 2030

The National Development Strategy of the Republic of Tajikistan 2030 (NDS) was prepared in 2016 and is based on the 2030 Agenda for Sustainable Development Goals. The NDS sets out the country's national strategic development priorities to ensure sustainable development based on national interests and needs. The NDS serves as the foundation for setting the development goals for all sectors at all levels, including environment and agriculture. Hence all other sectors have to contribute to the achievement of the NDS through the development and implementation of own sector strategies and programs.

---

[16] Address of the President of the Republic of Tajikistan, Emomali Rahmon to the Parliament of RT, December 22, 2017.

The NDS stresses the urgency of addressing environmental problems and the threat of climate change posed to the country's development process. The Strategy calls for "urgent actions on adaptation to climate change, protection of terrestrial ecosystems, land degradation, prevention and elimination of consequences of natural disasters, as well as increased access to fresh water and sanitation."[17]

One of the four strategic national development goals is ensuring food security and population access to quality nutrition. However, there are existing challenges, which hinder the progress. These include: inadequate regulation of land use in the agricultural sector, land degradation and poor soil fertility, unsustainable water use and pasture use and the risks related to climate change. The development process is also impeded due to the lack of sustainable agricultural management, which results in soil salinization, pollution, erosion, water logging and substantial reduction of productive arable lands.

The NDS includes several measures to address these existing challenges in the agricultural sector. The measures include: reform in the agricultural sector, innovations with limiting adverse impact on the environment and land, and access to improved seeds and agricultural fertilizers. For the improvement of agricultural production, new agricultural practices and technologies, as well as sustainable land and water management approaches are to be introduced. Moreover, the NDS requires effort to be made to enhance research work on biodiversity, climate change adaptation and resilience of mountain ecosystems.

5.1.2 State Ecological Program for 2009-2019

The Ecological Program for 2009-2019 is the main environmental policy document in the country which is comprised of several objectives aimed at improving the overall ecological situation in the country, with a strong emphasis on improving the protection of flora and fauna and the management of specially protected areas. Some of the objectives set forth within the program, although not specified directly, will have a positive effect on the biodiversity situation in the agrarian landscapes once they are implemented. These measures include: erosion control, preventing the expansion of lands used for low-yield crops, expansion of the areas for forest, orchards and green zones, introduction of new varieties of high-yield and disease-resistant agricultural crops and improving pasture management for halting degradation.[18] Inclusion of these measures in the state environmental policy indicates to the recognition of the linkages between environmental protection and agriculture, and provides a scope and opportunity to support the implementation of the Ecological Program via undertaking measures for conservation and sustainable use of biodiversity in agrarian landscapes.

There is an Action Plan that has been developed within the Ecological Program that identifies the concrete activities and responsible implementing bodies. However, within this analysis there was

---

[17] National Development Strategy of the Republic of Tajikistan 2030, 2016.
[18] State Ecological Program of the Republic of Tajikistan for 2009-2019, 2009.

no opportunity to review the Action Plan and the relevant reports submitted on its implementation.

5.1.3 National Biodiversity Strategy and Action Plan

Tajikistan ratified the Convention on Biological Diversity in 1997. The first National Strategy and Action Plan on Biodiversity Conservation of the Republic of Tajikistan (NBSAP) was prepared in 2003 for the period of 2003-2013. The new NBSAP was revised in 2016 and is for up to 2020 in accordance with the Strategic Plan for Biodiversity 2020 and the Aichi Biodiversity Targets. It is stated that the new NBSAP has an approach specific to agricultural countries, and that the national strategic goals and targets are developed in compliance with the national priorities of the Republic of Tajikistan, contributing to tackling social and economic issues, promoting sustainable development through conservation and sustainable use of biodiversity.[19]

The Strategic goals and targets developed under the NBSAP aim foremost at conservation and sustainable use of natural resources and ecosystem services of wild flora and fauna, mountain ecosystems, pastures, forests and protected areas. These are also identified as the priority areas for the implementation of biodiversity conservation efforts. Agrarian landscapes and the biodiversity of their ecosystems have not been given due importance in the NBSAP planned activities, which raises questions given that Tajikistan is an agrarian country and the sustainable use and conservation of agrarian landscapes deserves greater attention.

There is some reference to agricultural ecosystems, which are defined as cultivated lands where cultivated crops, orchards, fodder crops are grown and which can be restored to other ecosystems. The area of agroecosystems is expanding without due management being in place, which leads to the deterioration of soil fertility and land degradation. One of the major threats is expected from population increase and consequently the increase in the demand for agricultural land for food production. About 90% of agricultural lands are reported prone to desertification and a large share of this area is on pastures and arable lands.[20]

Forests, mountain ecosystems and pastures have been identified as most vulnerable to changing conditions, such as droughts, climate variability and climate change. The adverse impact of climate change on these ecosystems is expected to increase due to unfavourable social and environmental changes.

The assessment of the new NBSAP revealed that substantial work has been accomplished in elaborating a comprehensive set of national biodiversity goals and respective targets within the framework provided by the Strategic Plan for Biodiversity and Aichi Biodiversity Targets. The NBSAP consists of 5 Strategic goals, 5 National Goals and 20 Targets, each of which are supported with several specific activities. The Strategic Biodiversity Goals are translated into National Biodiversity Goals and claim for being in line with national priorities, interests and capabilities.

---

[19] National Strategy and Action Plan on Biodiversity Conservation of the Republic of Tajikistan, 2016.
[20]Ibid.

The NBSAP stresses the importance of biodiversity value for the economy and society and contains measures for accounting for biodiversity value and integration of biodiversity conservation and sustainable use in national, local and sectoral strategies and plans, where relevant. This is expected to contribute to alleviating some of the social, economic and environmental problems in the country.

The strategic and national goals and targets are formulated with a strong emphasis on the sustainable use and conservation of wild plants and animals, their genetic resources, forest resources, protected areas, mountain ecosystems and pastures. A closer look at some of the goals and targets can help to understand the overall purpose and the focus of the NBSAP:

> *Strategic Goal A: Address the Underlying Causes of Biodiversity Loss by Mainstreaming Biodiversity Across Government and Society*
> *National goal A: By 2020 to include biodiversity conservation issues into working programs and plans of state and public organisations as one of the key aspects of sustainable development of the Republic of Tajikistan.*
> *Target 3. By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are to be developed and applied, consistent and in harmony with the CBD and other relevant international obligations, taking into account national socio-economic conditions.*

The activities which are to lead to the achievement of this target are mainly planned for and cover the habitat of valuable types of forests, fruit genetic resources and endemic animal species. Subsidies that have a negative impact on agricultural production and soil fertility and incentives for the application of sustainable agricultural practices have not been included.

> *Target 4. Parliament, Government of the country and local authorities strengthen the legislation on the national, local and sectoral levels and adopt measures for sustainable regulation of use of natural resources, and mainly, biological resources.*

The measures to be adopted emphasize natural and biological resources, and leave out sustainable production and consumption approaches of the respective Aichi Target 4, which directly refer to biodiversity and ecosystems services in agricultural landscapes and are vital for mitigating adverse impacts and sustainably using biodiversity resources.

> *Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use.*
> *National goal B: Reduction of biodiversity loss rates in natural ecosystems including xerophytic lightwoods and savannas, absolute termination of forest cutting in habitats of genetic resources; introduction of incentives for stimulation of preservation of biodiversity.*
> *Target 7. Sustainable management of land use with consideration of representative preservation of biodiversity, and ensuring sustainable preservation of migration channels and diversity in accordance with approved national and regional eco-net.*

While Strategic Goal B calls for limiting direct pressure on all biodiversity types and facilitating for their sustainable use, the National Goal B and the respective targets are relevant for forests, protected areas and other wild flora and fauna. Target 7 mentions sustainable land management. However, it does not elaborate on which type of land management, leaving out any specific reference to sustainable agricultural land management. There is also no reference to the pollution from the use of agricultural chemicals, the overuse of which can have a severe negative impact on ecosystems on agricultural landscapes and beyond.

> ***Strategic Goal C:*** *To Improve the Status of Biodiversity by Safeguarding Ecosystems, Species and Genetic Diversity*
>
> ***National goal C:*** *Strengthening and improvement of protection of ecosystems and species diversity, particularly, genetic resources of wild relatives of cultivated plant species and their diversity in form.*
>
> ***Target 11.*** *By 2020, at the latest: To improve and strengthen preservation and rational use of biodiversity in order to ensure optimal provision of ecosystems services, particularly, high-mountain cryophyte, low-mountain sand-desert ecosystems, xerophyte light forest ecosystems, savannah ecosystems. Therefore, mesophile broad-leaved walnut ecosystems have top priority.*
>
> ***Activity 13.4.*** *Introduction into the agricultural practices of local communities and vulnerable groups selection of climate adapted varieties of genetic resources, market development and increase of income from genetic resources and ecosystem services.*

Conservation, maintenance and sustainable use of the genetic resources of cultivated plants and domesticated animals, the preservation of which is highly important for healthy ecosystems and human livelihoods has not been addressed under the above national goal and the respective targets and activities. Referring to the Aichi Target 13 here is noteworthy, as it is almost completely devoted to biodiversity resources in agricultural landscapes and states that *by 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.*[21]

---

[21] Convention on Biological Diversity. Decision X/2.

> **Strategic Goal D:** *Enhance the Benefits to All from Biodiversity and Ecosystem Services*
> **National goal D:** *Capacity building and enhancement of measures for rehabilitation of ecosystems found in mountain-steppe, mountain-meadows and savannah for improved productivity and social importance of biodiversity and ecosystem services, increasing the income from sustainably generated from ecosystem services and traditional technologies.*
> **Target 14.** *By 2020 the representation of the ecosystems included into the list of SPAs is specified, assessment of ecosystems is conducted in accordance of the level of its value for ecosystem services, measures are taken to rehabilitate the most valuable ecosystems which support ecosystem services.*
> **Activity 14.4.** *To develop and adopt the National Strategy on Rehabilitation of Degraded Lands; to rehabilitate no less than 5% of degraded lands by no later than 2017.*

Strategic Goal D is aimed at ensuring that all people receive the benefits derived from the products and services of biodiversity and ecosystem services that are essential socially and economically, including those services and products provided by biodiversity and ecosystems agricultural landscapes. Notably, ecosystems services found in mountain and savannah ecosystems, and those part of SPAs, are identified as priority directions. The target of rehabilitation of no less than 5% of degraded lands by 2017 does not elaborate on the type of degraded lands.

> **Strategic Goal E:** *Enhance Implementation through Participatory Planning, Knowledge Management and Capacity Building.*
> **National goal E:** *Strengthening of capacity, enhancement of activeness of sectors and society in mobilization of financial resources for effective preservation of biodiversity and stability of ecosystem services.*
> **Target 17.** *By 2015 the Republic of Tajikistan has developed and adopted by the Government of the Republic of Tajikistan as a political instrument an effective, participatory and updated National Biodiversity Strategy and Action Plan; by 2020 its implementation is launched.*
> **Activity 17.1.** *Development of the series of program and planned legal and directive documents for the integration of various sectors of state and public organizations, rapprochement of their positions on joint implementation and support to conservation and sustainable use of biodiversity and ecosystem services;*
> **Activity 17.2.** *Integration of biodiversity conservation issues into administrative-legal, economic-financial sectors of the country.*

For the NBSAP to be recognized as a political instrument for biodiversity conservation, for the involvement of other sectors in its implementation and integration of biodiversity-related issues in these sectors, it needs to be approved by the highest level of state authority, i.e. the Government of the Republic of Tajikistan through formally adopting it. The revised NBSAP was approved by the Committee for Environmental Protection (CEP), hence, there are no proper legal

grounds for other state bodies and agencies to comply with, take part and support the implementation of the NBSAP.

Final remarks

The assessment shows, that in the NBSAP little attention is given to the agricultural landscapes. Essential issues in agriculture, specifically relevant and having impact on biodiversity and ecosystems services, such as land management practices, large-scale land degradation, use of mineral fertilizers and pesticides, subsidies, irrigation schemes, etc. have not been explicitly included and described. The role of agricultural biodiversity is not elaborated and is limited to pasture use, production of meat, milk and eggs. The interdependence of biodiversity and agricultural systems require further analysis and emphasis. The vulnerability of agricultural landscapes and the expected impact on the sector from climate change could be given more focus.

Reflecting on the success of the previous NBSAP of 2003, it is reported in the new NBSAP[22] that 40%[23] of the measures planned under the previous Strategy have not been implemented. The slow progress is said to be connected with the environmental legal framework, particularly supplementary laws that have to be further strengthened. Furthermore, the new NBSAB elaborates that inadequate coordination among various state bodies on issues related to conservation and sustainable use of biodiversity has had an impact on the implementation of the previous NBSAP.[24] Particularly this is emphasized in regards with insufficient inclusion of the agricultural sector in the NBSAP 2003.

In the previous sections above it was indicated that the Strategic Plan for Biodiversity and Aichi Biodiversity Targets contain several goals and targets, which are particularly relevant for biodiversity in the agricultural landscapes. In the NBSAP it is stated that the structure and the measures of the Action Plan are aimed at addressing important social and economic issues in the country, including in the agriculture sector, but there is no clear goal or target which refers directly to agriculture and agricultural production. Activities are laid out in the Action Plan to involve national and local governmental bodies in biodiversity conservation and sustainable use, such as the Land Committee, Ministry of Education, local hukumats, etc., however, the Ministry of Agriculture and the Academy of Agricultural Sciences are not indicated in the responsible executing bodies of the Action plan and no specific tasks are assigned to them in the NBSAP implementation.

---

[22] Ibid. Pg. 116.
[23] In another place of the NBSAP 2016 (Pg. 118) it says that 37% of the planned measures were implemented.
[24] National Strategy and Action Plan on Biodiversity Conservation of the Republic of Tajikistan, 2016. Pgs. 120-121.

5.1.4   Concept Paper on Agrarian Policy of the Republic of Tajikistan (2008)

The Concept Paper aims to contribute to ensure national food security. It provides a framework for strengthening the agricultural sector through addressing the existing challenges, including environmental problems, which affect agricultural productivity. The document points to such issues as land degradation and soil nutrient loss. The rehabilitation of degraded land is perceived as economically more viable than expansion into new lands, considering that new arable lands have low productivity in the initial stages of use.[25]

The Concept Paper proposes the development of an appropriate strategy to restore and maintain soil fertility. Considering the negative impact from the use of agricultural chemicals for humans and the environment, their production, import, marketing and use needs to be strongly regulated. It is also mentioned that the need for the development of sustainable pasture use systems has to be recognized and duly addressed.

5.1.5   State Program on the Implementation of the Concept Paper on Predictive Development of the Legislation of the Republic of Tajikistan in the field of Agriculture and Environmental Protection for 2012-2015

Enhancement and strengthening of the agrarian and environmental legislation is envisaged in the State Program on the Implementation of the Concept Paper on Predictive Development of the Legislation of the Republic of Tajikistan in the field of Agriculture and Environmental Protection for 2012-2015. It calls for a thorough analysis and improvement of the legislation through amendments in the existing laws and elaboration of new laws, as well as elimination of contradictions within and between the laws on agriculture and environmental protection, harmonization with international agreements adopted by Tajikistan.[26] Such legislative improvement is expected to intensify the activities for improvement of land fertility and agricultural production, efficient land management and ensure protection of wild animals and plants. The respective Action Plan of the Program proposes amendments and expansion of the Law on State Regulation for Provision of Fertility of Agricultural Lands.[27]

5.1.6   Agricultural Reform Program 2012-2020

The Agricultural Reform Program of the Republic of Tajikistan for the period of 2012-2020[28] identifies the priority directions for strengthening the agricultural sector to become a highly profitable and export-oriented sector, taking into account the strategic national goals for improving the wellbeing of the rural population and achieving food security in the country. The

---

[25] Concept Paper on Agrarian Policy of the Republic of Tajikistan, 2008.
[26] State Program on the Implementation of the Concept Paper on Predictive Development of the Legislation of the Republic of Tajikistan in the field of Agriculture and Environmental Protection for 2012-2015, 2012. Pg.3.
[27] Ibid. Pg. 5.
[28] Agricultural Reform Program of the Republic of Tajikistan for the period 2012-2020, 2012.

Program is developed in line with the National Strategy of the Republic of Tajikistan 2015 and other relevant strategies.

The current environmental challenges that are mentioned in the Program, such as unsustainable use and management of natural resources, including pastures, inadequate land management in agriculture, long-term and excessive use of mineral fertilizers and pesticides, the resulting salinization and soil erosion and poor irrigation system have led to worsening of the environmental situation in the sector.

There is a rather strong focus on environmental sustainability in the agricultural sector. A set of measures are proposed to tackle land degradation, halt forest logging and improve natural resources management in the agricultural sector for increasing agricultural productivity, primarily at household and dehkan farm level. The proposed measures include a set of activities aimed at diverse issues, ranging from the introduction of drought-resistant crops and moisture-retaining technologies, sustainable land management practices, such as no-tillage, contour terracing and use of organic fertilizers, to more complex and drastic changes of transition to diversification from mono-cultures, promotion of agro-biodiversity and agro-forestry. It is noteworthy that the Agricultural Reform Program makes a strong reference to existing best-practices in sustainable natural resource management, highlighting the joint forest management and pasture management approaches.

The implementation of the proposed activities is expected to result in a number of significant results beneficial not only for agricultural production, but also for biodiversity and natural resources, and importantly for the rural population who depend on these resources. Some of the expected results include: improved soil quality, reversing the loss of arable lands, sustainable use and management of land and water resources, conservation of natural resources, increasing agricultural production, as well as ensuring food and nutrition, and better livelihoods for the population.

Well into the completion of the Agricultural Reform Program in 2020 some of the objectives have been implemented, such as the adoption of the Law on Pastures (2013), nevertheless, many planned measures still remain in the pipeline and their implementation is hindered due to the shortage of financial and technical capacities.

5.2   Climate policy framework

Since its accession to the United National Framework Convention on Climate Change (UNFCCC) in 1998, the Republic of Tajikistan prepared its National Action Plan for Climate Change Mitigation in 2003. Three National Communications to UNFCCC were submitted over the years, with the Third National Communication submitted in 2014. The new National Climate Change Adaptation Strategy is pending approval.

In the Third National Communication to the UNFCCC it is reported that the biodiversity of mountain ecosystems, forests and the agricultural sector are highly vulnerable to the predicted extreme weather events (rainstorms, longer period of high and low temperatures, frosts), natural hazards (droughts, floods) and higher frequency of pest and diseases outbreaks.[29] The adaptation measures recommended for reducing the sectors' vulnerability and mitigating adverse impacts include: soil erosion control, improving soil fertility, enhancement of land management (organic farming, agro-forestry, introduction of improved crops), protection of agro-biodiversity and genetic resources, improving access to finances, extension services, and better infrastructure.

Moreover, as part of its contribution to the Paris Agreement – the International Agreement on Climate Change (2015) and commitment to the global goal of emissions reduction, Tajikistan submitted its Intended Nationally Determined Contribution (INDC). The INDC indicates land use, agriculture, forestry and biodiversity among the key sectors for developing and implementing mitigation and adaptation measures at national and local levels.[30]
Close consideration of biodiversity, agriculture and forests as part of climate change adaptation efforts of the country, points out to the urgency of actions needed, which will ensure that these sectors are well adapted and are resilient to the visible and expected negative impacts.

5.3   Legal framework on biodiversity and ecosystems services in agrarian landscape

The agrarian sector of the Republic of Tajikistan is regulated by a range of laws, which form a complex legislation system in their totality. For the purpose of this assignment the following sections describe the laws that have or potentially can have explicit importance for the conservation and sustainable use of biodiversity and ecosystems services in agrarian landscapes. They will be also the subject of the following chapters of this report. More in-depth analysis of the agrarian legal framework can be found in the Report of the Legal Expert.

The Law on State Regulation for the Provision of Fertility of Agricultural Lands (2004) is a key law that provides for the conservation and improvement of the fertility of agricultural lands through a range of measures agro-technical, agro-chemical, etc. Importantly, the proposed agro-technical measures in the law[31] consist of the application of sustainable agricultural practices, which are beneficial for soil fertility, have no adverse effect on the environment and sustain agricultural production. Hence, the implementation of these agro-technical measures although not explicitly mentioned in the respective law, can significantly contribute to the conservation of agricultural biodiversity and ecosystems services. The enforcement of the Law is not accomplished due to the lack of the mechanism of enforcement, such as by-laws, technical guidelines and so forth.

---

[29] Third National Communication to UNFCCC, 2014.
[30] Intended Nationally Determined Contribution of the Republic of Tajikistan, 2015.
[31] Law of RT on State Regulation for Provision of Fertility of Agricultural Lands, 2004.

The Land Code (1997) has reference to the complex nature of ecological systems and identifies set of measures to prevent land degradation and ensure rehabilitation of degraded lands. These measures range from soil protection from water and wind erosion, protection from waste and chemical pollution, etc. and halt of activities that negatively influence soil fertility and other useful soil properties. However, no by-laws developed which regulate land conservation measures, no procedures for breaching the established measures of land conservation are set. As of today the Land Code is the only law in the environmental legal framework of the Republic of Tajikistan that has not been revised to adequately reflect all the international environmental agreements that the Republic of Tajikistan has joined since the adoption of the Land Code, particularly those requirements for ensuring conservation and sustainable use of biodiversity. Additionally, such status of the Law may give way to inconsistencies in environmental and agrarian legislation.

The Law on Soil Conservation (2009) is developed for the conservation and sustainable use of soil. It proposes the elaboration of sate programs for the implementation of conservation measures which are rather similar to those found in the Land Code. The Law on Soil Conservation[32] regulates soil quality control and implementation of soil monitoring system. The given Law contains clear measures, the implementation of which is expected to provide for healthy soils, nevertheless, the development and enforcement of the guidelines and standards for executing these measures is falling short from implementation. It is a challenge to draw a line between these Law on Soil Conservation and the Land Code in relation to their provisions on soil conservation, due to the similarities of the measures that they contain.

Law on Collection, Conservation and Rational Use of Genetic Resources of Cultivated Plants (2012) regulates the use of cultivated plants and their wild relatives of importance for agriculture, food security, environmental and biological safety, etc. The Law provides for the development of by-laws for the conservation and rational use of the components of agricultural biodiversity, and development and implementation of national programs for conservation and rational use of genetic resources of cultivated plants and their wild relatives.[33] There are clear provisions for regulating activities related to genetic resources of cultivated plants for the purpose of preventing damage to the environment and agricultural ecosystems, and those which may lead to the reduction or loss of agricultural biodiversity. The Law refers to strengthening of the scientific knowledge and capacities of the concerned bodies regarding the status, sustainable use and conservation of genetic resources of cultivated plants and their wild relatives.

Law on Production and Safe Use of Pesticides and Agrochemicals (2003) was developed to establish state regulation on the use and production of pesticides and chemicals used for

---

[32] Law of RT on Soil Conservation, 2009.
[33] Law of RT on Collection, Conservation and Rational Use of Genetic Resources of Cultivated Plants, 2012.

agricultural purposes in order to ensure human and environmental safety.[34] The Law requires official registration and regulates testing, certification, transportation and storage of pesticides and agrochemicals. The application of these chemicals should be based on environmental conditions, the quality of soil and soil fertility and take into account the demand for these chemicals.

The full enforcement of the law is conditioned by the full-functioning of the agrochemicals laboratory under the Ministry of Agriculture, which requires renovation and technical support.

Law on Pastures (2013) was revised relatively recently and contains principles of efficient and integrated use of pastures, pasture protection and protection of the environment. The pasture management activities include activities such as: the development of methods and approaches for pasture protection and rehabilitation, identifying allowable limits of pastures, state monitoring of pastures and pasture resources and conducting geobotanical research of pastures. The law prohibits cutting of trees and bushes on pasture lands. Grazing of cattle beyond the established carrying capacity of pastures is also prohibited by the law. The law defines the term "carrying capacity of pastures" and the requirements for it should be included in the pasture use plan. The pasture use plan also should include requirements for seasonal pasture use and pasture rotation. Furthermore, the law requires pasture users to implement measures for pasture improvement, for conservation of biodiversity, and preventing degradation and soil erosion. [35]

The analysis of the legal expert revealed that the effective implementation of the Pasture Law is hindered by the slow process of developing the relevant supplementary laws, which specify the requirements of the law and provide guidance to the concerned authorities and users of pastures. Taking into account the role of pastures for biodiversity conservation and for the agricultural production, the completeness of the legal framework on pastures should be of outmost priority.

Forest Code (2011) defines "biodiversity conservation" and includes conservation of biodiversity of forests among the main principles of state forest management. The principles also include sustainable forest management and recognizing the role of forests for climate regulation, soil and water protection, etc. Forest use should be carried out based on the principles of sustainable forest management and multipurpose use of forest resources. The Law obliges forest users to ensure biodiversity conservation and rehabilitation of forests, medicinal and edible plants. Cattle grazing and hay-making are allowed on forest lands according to the Forest Law.[36]

---

[34] Law of RT on Production and Safe Use of Pesticides and Agrochemicals, 2003.
[35] Law on Pastures of the Republic of Tajikistan, 2013.
[36] Forest Code of the Republic of Tajikistan, 2011.

The Forest Code is considered as one of the most well developed laws in the environmental sector, which has been revised taking into account the actual state of forests and their functions for the environment and for the society. Nevertheless, there are issues that need to be addressed and one of them is the issue of the large forest areas that have been allocated for pasture use. The legal status of these lands remains unclear and their management status has not been properly addressed as well. This issue has been long a cause of dispute between the forest and agrarian sectors.

Law on State Support for Agroindustrial Complex of the Republic of Tajikistan (2007) is aimed at the development of agroindustrial complex of the country and ensuring food security and raw materials for the processing industries, as well as increasing the export potential of the country.[37] This is to be accomplished through allocation of financial support in the form of subsidies from the state budget and from other sources including international investments and grants. The Law identifies several fields eligible for applying for these subsidies and among these are: seed production, improvement of soil fertility and amelioration of irrigated lands, increase the productivity and production of cotton, potatoes, vegetables, melons, cereals, etc., orchards and vineyards, greenhouses for fruit seedlings production, development and application of science and technology, strengthening of national genetic resources fund of agricultural crops, animals, etc., and last but not least purchase of equipment and other materials for research institutions.

Financial incentives are also provided in the Land Code (1997), in the Law on State Regulation for Provision of Fertility of Agricultural Lands (2004), and in the Law on Collection, Conservation and Rational Use of Genetic Resources of Cultivated Plants (2012). The incentives are allocated from state budget and other external sources for: supporting rehabilitation of degraded lands, for carrying out agrotechnical and soil conservation measures, sustainable use and conservation of genetic resources of crops, provision of subsidised loans for improvement of land management practices and as a reward for enhancing soil quality and fertility, productivity of lands and production of organic products.

Notwithstanding the established legislation for provision of incentives and subsidised loans, allocation of these funds is proven difficult due to the shortage of funding from the state budget. Shortage of financial resources as mentioned earlier, is one of the main limiting factors for effective and timely enforcement and implementation of the legislation framework.

---

[37] Law on State Support for Agroindustrial Complex of the Republic of Tajikistan, 2007.

6 Mainstreaming biodiversity and ecosystems services in agrarian landscapes at the national level: potentials and limitations

It has been widely recognized that biodiversity conservation cannot be accomplished solely through the establishment of protected areas and to ensure successful biodiversity conservation, other sectors, such as agriculture and forestry, have to be actively involved in the process.[38] Biodiversity issues need to be mainstreamed into a wide range of national, local and sectoral policies. *Mainstreaming is a process of integrating conservation and sustainable use of biodiversity in strategic and cross-sectoral plans such as sustainable development strategies, poverty reduction strategies, plans for climate change adaptation and/or mitigation, as well as in plans and strategies for a specific sector, such as agriculture, forestry, energy, tourism, etc.*[39] Effective measures for mainstreaming biodiversity in the agricultural landscapes require a thorough consideration of both the positive and negative effects on biodiversity status, the existing linkages with other sectors, the economic value of biodiversity and ecosystems services and their importance for human well-being and rural livelihoods.[40] The strong interdependence between biodiversity and agriculture, earlier described in Chapter 2, is seen in a number of aspects with both a positive and negative impact between the two.

The CBD places a strong emphasis on biodiversity mainstreaming into other sectors and at different levels. In this context, several Aichi Targets have provisions for biodiversity mainstreaming:

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.

Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.

Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

---

[38] Cowling, R.M. The Process of Mainstreaming: Conditions, Constraints, and Prospects. Mainstreaming biodiversity in production landscapes, 2005. Global Environmental Facility.
[39] CBD NBSAP training modules version 2.1 – Module 3. Mainstreaming biodiversity into national sectoral and cross-sectoral strategies, policies, plans and programs, 2011.
[40] Ibid.

In accordance with the Aichi Targets, the NBSAP of the Republic of Tajikistan contains National Goal A, Targets 2; 3; 4; and Target 17 which address biodiversity mainstreaming. Although no specific reference is made to agricultural landscapes in the planned activities, a sufficient scope is provided for carrying out biodiversity mainstreaming in other sectors, which rely on and have influence on biodiversity and ecosystems services.

It seems that the factors which hindered the full implementation of the NBSAP 2003 and also the inclusion of the agricultural sector in the previous NBSAP 2003, have influenced the weak mainstreaming process during the preparation of the new NBSAP also. These factors include: lack or insufficient recognition of biodiversity value for other sectors;[41] inconsistency of the legal framework on environmental protection and on agriculture which affects the mainstreaming of biodiversity issues in agriculture. The conservation and sustainable use of biological diversity (biological resources of wild flora and fauna) is regulated by environmental laws, however, these do not provide a solid base for natural resources of the agrarian landscapes, and the agrarian policy and legal framework does not mention biodiversity conservation. There are agrarian laws and sectoral policies that contain activities, the implementation of which is expected to result in the improvement of soil fertility, rehabilitation of degraded lands, etc.

For the relevant policies and legislation to accommodate biodiversity issues and the NBSAP development process, close cross-sectoral coordination during the mainstreaming process is required. To facilitate the process, there is a strong need to include the key stakeholders in various sectors and institutions, which have a direct influence on biodiversity and can contribute to the successful achievement of the set goals and targets. For effective mainstreaming of conservation and sustainable use of biodiversity in the agricultural landscapes, the key stakeholders have to be actively engaged in the policies and legislation, the planning of national biodiversity strategies and implementation of biodiversity measures in the respective sectors. The stakeholders group should include and not to be limited to: the Ministry of Agriculture, Academy of Agricultural Sciences, Committee for Environmental Protection, Center for Biodiversity and Biosafety, State Forestry Agency, Committee for Land Resources and Geodesy, Ministry of Finance, Ministry of Economic Development and Trade, Scientific-Research Institutions, Agricultural University, Associations of Agricultural Producers, Association of Farmers, local NGO's, micro-loan organizations, independent experts in the field, focal points of UNCBD, UNCCD, UNFCCC and other organizations that have direct or indirect relations to biodiversity and ecosystems services in agricultural landscapes.

The acceptance by key stakeholders of the importance and existing linkages between biodiversity and ecosystems services and other sectors of the economy is extremely important for their active participation in the process of mainstreaming biodiversity in the respective areas. The knowledge and understanding of sectoral and cross-sectoral actors on biodiversity and ecosystems services, on their role for human well-being, sustainable economic development (sustainable agricultural production), and environmental protection, is a prerequisite for successful mainstreaming

---

[41] This was emphasized during the discussion with one of the key persons met.

process and stakeholder participation. Strong capacity is necessary for implementing approaches and practices for conservation and sustainable use of biodiversity and ecosystems services in agrarian landscapes based on the policies and programs that provide for these measures accordingly. In this context and based on the discussions held with the key persons met, it can be suggested that the key stakeholders, i.e. the Ministry of Agriculture, the Committee for Environmental Protection, Center for Biodiversity and the Academy of Agricultural Sciences require support in enhancing the understating and strengthening of competencies in effective integration of biodiversity conservation measures in the agrarian landscapes.

6.1 Suitable possibilities and potential entry points for BES mainstreaming in AL on national level

Biodiversity issues are mainstreamed into existing and planned sectoral and cross-sectoral strategies and programs to establish a mutual process between biodiversity and the development process which is conducive for achieving the overall objectives with beneficial results for the society, economy and the environment. Entry points – opportunities for mainstreaming biodiversity issues into other policies and processes are identified and prioritized depending on: 1) biodiversity status, 2) availability of scientific knowledge and information, 3) level of buy-in of different actors and decision makers; and 4) the extent of how developed the biodiversity policy and legal framework are. Selection of the appropriate entry point is not only about where to mainstream, but also during what specific point of time it is most effective to undertake mainstreaming of biodiversity conservation and sustainable use. At the same time the planned measures should be realistic, considering the capabilities for implementation.

The priority entry points for mainstreaming biodiversity lie foremost at the national level cross-sectoral and sectoral strategies. Cross-sectoral strategies address country-wide issues and set strategic goals for whole sectors and include national sustainable development strategies, poverty reduction strategies, and national strategies for climate change mitigation and/or adaptation. National sectoral strategies and programs are prepared for main sectors and are tailored for tackling sector-specific issues. Although NBSAP is the key policy document for mainstreaming biodiversity in various sectors, Agricultural Reform Programs, Environmental Action Plans and Forestry Development Strategies are also common examples of sectoral strategies. The development process of sectoral policies has to reveal and take into account the biodiversity and ecosystems services that a certain sector is using to facilitate the mainstreaming process. NBSAP should be viewed as the overarching framework for biodiversity and ecosystem services to which each sectoral strategy must be seen to implementing. Active participation, close coordination and continuous exchange are vital for effective biodiversity mainstreaming. Once the NBSAP or other policy documents which served as entry points for biodiversity mainstreaming are prepared, their successful implementation and importantly, participation of all stakeholders in the implementation process is guaranteed with the official approval of the policy by the highest tier of the government.

In addition to the policies, the legal framework for a sector may serve as a suitable entry point for biodiversity mainstreaming into sectors as well. Laws which regulate the management and use of natural resources, production sectors which rely on ecosystems services can contain provisions for ensuring protection of these resources and their sustainable use. Supplementary laws, by-laws, guidelines, etc. can serve as tools for implementing these measures. However, these laws have to be free of contradictions and inconsistencies to provide a clear legislative basis for the authorities to fulfill the tasks they have made responsible for.

Given the significance of ecosystems services in the agrarian landscape, mainstreaming of biodiversity issues should be carried out at the early stages of elaborating strategic national and sectoral policies and legislations. In the case of agrarian landscapes, conservation and sustainable use of biodiversity is integrated in the respective chapters of the national development strategies concerning food and nutrition and agricultural development, in food security strategies, strategy or program for agricultural development, during the revision and amendment of agrarian legislation and laws on the regulation of land, water, forestry and other natural resources that form and are part of agricultural landscapes.

7 Conclusions

The limited area of arable land has not limited Tajikistan to develop as an agricultural country. Vast areas are used for production of cash crops, vegetables, orchards and animal grazing. The rich biodiversity in its current form and size has played an important role in sustaining the ecosystems services that are essential for production of not only agricultural products, but sustaining human well-being. The sustainability of development efforts, including food security and improved livelihood of the population, depend on the biodiversity of agrarian landscapes. The preservation of this dependency may be compromised unless the drivers of biodiversity reduction and loss are addressed.

The Aichi Targets and other programs of the CBD are designed for addressing the drivers of biodiversity loss and provide for conservation and sustainable use of the rich diversity of species and genetic resources. There is an excellent opportunity to achieve progress in reaching several goals of Agenda 2030 through the implementation of measures in the Aichi Targets. There is a Regional Framework Convention on Environmental Protection and Sustainable Development that incorporates the main principles of biodiversity conservation and sustainable use of resources at national and regional level.

Tajikistan has progressed well in adhering to its commitments under the CBD and within the framework of the Strategic Plan for Biodiversity 2011-2020, having developed two NBSAPs and submitting its National Reports to the CBD. The most recent NBSAP is comprehensive in addressing the complex landscape of biodiversity systems of the country. However, agriculture and agrarian landscape biodiversity has not been sufficiently accounted for in the NBSAP due to a number of reasons: lack of understanding of the value of biodiversity among other sectors, weak inter-sectoral coordination, inconsistencies in the legislation, and shortage of financial and technical capacities.

The existence of several similar environmental policies such as the NEAP, Ecological Program 2009-2019 and the NBSAP, might be quite misleading not only for the concerned governmental bodies, but also for international partners and donor agencies, which have to prioritize actions and allocate resources accordingly. The inconsistencies and duplications within the legislative framework on conservation and management of land, soil, genetic resources of cultivated plants, etc. present a significant barrier for identifying and implementing effective measures. The agrarian legal framework does not explicitly refer to biodiversity and ecosystems services. However, specific objectives identified for environmental protection and conservation natural resources vital for agriculture. The legal framework on biodiversity conservation covers biological resources of wild flora and fauna, mountain ecosystems, and protected areas. The provisions for conservation and management of soil, enhancing soil fertility, prevention of soil degradation and adverse impacts on land resources are spread throughout several laws under jurisdiction of separate competent bodies and often lack supplementary by-laws as mechanisms for enforcement and implementation.

Insufficient coordination and cooperation amongst the sectoral agencies during the planning and preparation of NBSAP has resulted in weak mainstreaming of agricultural issues in the NBSAP. The Ministry of Agriculture and the Academy of Agricultural Sciences have not been actively involved in the implementation of the NBSAP Action Plan. Weak mainstreaming of the agricultural sector can be also connected to the inconsistencies in the environmental and agrarian legislation. Mainstreaming of biodiversity issues in national and sectoral policies and laws is a challenge that is not easily addressed, given its complexity. Nevertheless, it is essential for preserving the ecosystems services and sustaining production functions of different sectors. The national development goals for improving agricultural productivity, fostering food security and well-being of the population strongly benefit from mainstreaming biodiversity conservation issues in the agrarian landscapes, foremost in terms of ensuring the sustainability of these goals, but also through contributing to their achievement via implementation of sustainable, participatory and climate-resilient management practices.

8 Recommendations

The following recommendations for the project team are designed to provide appropriate constructive support to the Government's efforts in conservation and sustainable use of biodiversity and ecosystems services in agrarian landscapes. It is recommended to:

1. Further mainstream biodiversity issues in the agriculture sector using the opportunities provided in the existing and planned policies, strategies and actions plans. A key entry point is the development of the new food security program with reference to the Address of President Emomali Rahmon to the Parliament. The new food security program is a national level policy, which will target many sectors, including environmental and agriculture sectors, hence inclusion of biodiversity and ecosystems services of agrarian landscapes is essential. In this regard, provision of support to the elaboration of the strategy on conservation of agricultural biodiversity is of high relevance, once this initiative will gain momentum among the responsible state agencies.

2. Facilitate strengthening of the legal framework on conservation and sustainable use of biodiversity through addressing the contradictions and duplication of provisions on conservation and sustainable management of land resources in the Land Code, the Law on State Regulation for Provision of Fertility of Agricultural Lands, and The Law on Soil Conservation. Support the development of the necessary supplementary laws (by-laws, technical guidelines, manuals) to provide adequate enforcement and implementation mechanisms for the mentioned laws.

3. Support close cooperation and coordinated decision making process between the relevant government bodies, research institutions and community organizations to ensure effective elaboration of policies and their implementation, as well as to improve the capabilities for securing financial and technical support.

4. Actively support the implementation of the practices and approaches, which have been proposed as agro-technical, conservation and sustainable land management measures, including: participatory management of forests and pastures, introduction of drought-resistant crops and moisture-retaining technologies, no-tillage, contour terracing, application of organic fertilizers, etc.

5. Support the adoption of effective communication strategies for biodiversity mainstreaming. Formulate clear and convincing messages about the value of biodiversity and ecosystems services for different sectors, based on scientific research and sector assessments. The messages must be tailored for different sectors and communicated accordingly to ensure the understanding and acceptance of biodiversity values among high-level decision makers, sectoral practitioners, stakeholders and the wider public. The messages on ecosystems services of agrarian landscapes aimed at the general public and community groups have to be simple and clear explaining biodiversity and the ecosystems goods and services, the mutual interdependence of biodiversity and agriculture, as an example. Other effective communication strategies include: public information and

education programs with the involvement of communities and mass media, and support of biological diversity studies undertaken by scientific-research institutes and universities.

6. Further assessment to identify the capacity needs of: i) the competent bodies in policy planning and implementation, ii) the research institutes in conducting of scientific-research work; and iii) the higher educational institutions in training and educating on conservation and sustainable use of biodiversity and ecosystems services.

9 Sources

Convention on Biological Diversity. Decision X/2.

Convention on Biological Diversity. COP Decision V/5.

Convention on Biological Diversity. COP Decision V/5. Section II.

Convention on Biological Diversity. COP Decision V/5, appendix.

Convention on Biological Diversity. Decision VIII/23 A.

Convention on Biological Diversity. SBSTTA/21/2/Add.1

Convention on Biological Diversity. (2011). NBSAP training modules version 2.1 – Module 3. Mainstreaming biodiversity into national sectoral and cross-sectoral strategies, policies, plans and programs.

Cowling, R.M. (2005). The Process of Mainstreaming: Conditions, Constraints, and Prospects. Mainstreaming biodiversity in production landscapes. Global Environmental Facility.

Interstate Commission on Sustainable Development. (2006). Framework Convention on Environmental Protection and Sustainable Development in Central Asia.

Republic of Tajikistan. (2017). Address of the President of the Republic of Tajikistan, Emomali Rahmon to the Parliament of RT.

Republic of Tajikistan. 2012. Agricultural Reform Program of the Republic of Tajikistan for 2012-2020.

Republic of Tajikistan. (2012). Concept Paper on Predictive Development of the Legislation of the Republic of Tajikistan in the field of Agriculture and Environmental Protection for 2012-2015.

Republic of Tajikistan. (2011). Forest Code of the Republic of Tajikistan.

Republic of Tajikistan. (2015). Intended Nationally Determined Contribution of the Republic of Tajikistan.

Republic of Tajikistan. (1997). Land Code of the Republic of Tajikistan.

Republic of Tajikistan. (2012). Law on Collection, Conservation and Rational Use of Genetic Resources of Cultivated Plants.

Republic of Tajikistan. (2003). Law on Production and Safe Use of Pesticides and Agrochemicals.

Republic of Tajikistan. (2009). Law on Soil Conservation of the Republic of Tajikistan.

Republic of Tajikistan. (2004). Law on State Regulation for the Provision of Fertility of Agricultural Lands.

Republic of Tajikistan. (2007). Law on State Support for Agroindustrial Complex of the Republic of Tajikistan.

Republic of Tajikistan. (2016). National Development Strategy of the Republic of Tajikistan for 2030.

Republic of Tajikistan. (2006). National Environmental Action Plan of the Republic of Tajikistan.

Republic of Tajikistan. (2016). National Strategy and Action Plan on Biodiversity Conservation of the Republic of Tajikistan for 2020.

Republic of Tajikistan. (2013). Pasture Law of the Republic of Tajikistan.

Republic of Tajikistan. (2009). State Ecological Program of the Republic of Tajikistan for 2009-2019.

Republic of Tajikistan. (2012). State Program on the Implementation of the Concept Paper on Predictive Development of the Legislation of the Republic of Tajikistan in the field of Agriculture and Environmental Protection for 2012-2015.

United Nations. Transforming Our World: The 2030 Agenda for Sustainable Development. A/RES/70/1.

State Statistical Agency of the Republic of Tajikistan. (2015). Tajikistan in Figures.

Republic of Tajikistan. (2014). Third National Communication of the Republic of Tajikistan to UNFCCC.